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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/663,935

09/16/2003

Abbas El Gamal

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EXAMINER

PHAM, HOA Q

ART UNIT

PAPER NUMBER

2886

MAIL DATE

DELIVERY MODE

02/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/663,935	Applicant(s) GAMAL ET AL.	
	Examiner Hoa Q. Pham	Art Unit 2886	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-37 and 40 is/are allowed.
- 6) ☒ Claim(s) 1,3,6-11,15-25, and 41 is/are rejected.
- 7) ☒ Claim(s) 2,4,5,12-14,38,39 and 42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/17/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings filed on 11/13/06 have been accepted.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 6-11, 15-25 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kovacs (US 2002/0131899 A1) in view of Wu (6,617,565)

Regarding claims 1, 3, 10-11, 18-19 and 41; Kovacs discloses a biologic electrode array with integrated optical detector in which all of the components such as light detecting circuit, processing circuit are formed on a single substrate (paragraphs [0019], [0037]). Kovacs teaches that the decoders (14,16), counter (18), DAC (22) are also formed on the substrate and does not clearly mention the use of a processing circuit including an instruction-responsive processor formed on the substrate; however, it is known in the art that a processor having such elements (i.e., counter, decoders, DAC, etc...). In addition, Wu teaches that the processor circuit (105) is integrated on the same substrate as the sensor array (103), memory (109) and I/O (107) (column 2, lines 7-13 and 37-46). It would have been obvious to one having ordinary skill in the art at the time the invention was made to consider the processing circuit of Kovacs as a

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processor which can be formed on a substrate because this is a known way for forming the processing circuit as evidence show by Wu.

Regarding claim 3, see paragraph [0022] of Kovacs for CMOS based circuitry.

Regarding claim 15, see paragraph [0050] and claim 18 of Kovacs for the use of photodiodes array.

Regarding claim 6, Kovacs teaches the use of known wavelengths for fluorescence detection (paragraph 0050]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include in Kovacs a color filter for eliminating the unwanted wavelengths, thus the signal to noise ratio is improved.

Regarding claims 7-8, see figure 3 of Kovacs for the clock signal from counter (18).

Regarding claims 9 and 17, see figure 3 of Kovacs for the use of D/A converter (22). It would have been matter of design choice to use A/D converter instead of D/A converter if different processing circuit is used.

Regarding claim 16, calibrating before or after measuring of an optical inspection device is well known, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in Kovacs a calibrating step for the purpose of calibrating the fluorescence measuring device. The rationale for this modification would improve the accuracy of the measurement.

Regarding claim 20, Kovacs teaches the use of photodiodes (claim 18) or charge-coupled device (CCD) (paragraph [0050]).

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Regarding claim 21, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include to use the basic device of Kovacs for determine different characteristics of the sample if additional measurements are desired.

Regarding claims 22-25, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in Kovacs a noise reduction circuit for controlling the noise in the assay output. The rationale for this modification would have arisen from the fact that using such noise reduction circuit would provide a better signal generated by the light detecting circuit.

Allowable Subject Matter

4. Claims 26-37 and 40 are allowed.
5. Claims 2, 4, 5, 12-14, 38-39 and 42 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments filed 11/17/08 have been fully considered but they are not persuasive.

a. Applicant's remarks, pages 9-10, argue that "the combination of teachings is unmotivated as the references teach away from the combination". It is noted that the Office action is not trying to attempting to replace the DAC of Kovacs by a processor of

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Wu, the teaching of Wu shows that a processor can be formed on a single substrate is well known in the art. Kovacs teaches the use of decoder, counter and DAC which can be considered as a processor for processing the signal and providing an output corresponding to the detected optical characteristic.

b. Since the definition of the language “processor” in the claims is not clear; therefore, the language can be interpreted as broad as it can.

In view of the foregoing, it is believed that the rejection under 35 USC 103 is proper.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (571) 272-

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2426. The examiner can normally be reached on Monday through Friday, 8:00AM TO 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur Chowdhury can be reached on (571) 272-2287. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hoa Q. Pham/
Primary Examiner, Art Unit 2886

HP
February 17, 2009